

REMARKS

Claims 1 and 61-110 were pending in this application.

Claims 1 and 98 are amended.

Claim 111 is added.

Claims 61-70, 80-85, and 88-97 are canceled without prejudice.

Upon entry of this Amendment, claims 1, 71-79, 86-87, and 98-111 will be pending, of which claims 1, 72, 98 and 111 are the independent claims.

I. ALLOWED CLAIMS

Applicants appreciate the Examiner's indication that claims 85 and 86 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Accordingly, claim 85 has been rewritten in independent form including all of the limitations of the base claim and any intervening claims and is presented herein as new claim 111.

Applicants believe dependent claim 86 is dependent upon allowable claim 77, which is dependent on allowable claim 71 as will be explained below. Accordingly, Applicants have not rewritten claim 86 in independent form.

II. DRAWINGS

The drawings were objected to as failing to include the reference characters 232, 316, 474, and 600. Applicants respectfully submit these reference characters are shown in FIGS. 4, 5, 7, and 10, respectively. The Specification has been amended to include reference characters shown in the drawings. No new matter has been added by these amendments.

III. AMENDMENTS TO THE SPECIFICATION

The disclosure was objected to for containing minor informalities. The Specification has been amended to correct minor informalities as the Examiner has suggested. No new matter has been added by these amendments.

IV. OBJECTIONS TO THE CLAIMS

Claim 1 was objected to as lacking antecedent basis for "the effluent gas stream" and "the oxidizable components." Accordingly, Applicants have amended claim 1 to recite "an effluent gas stream" and "a portion of oxidizable components of the effluent gas stream."

The Examiner further states the claim 1 lacks positive structural limitation. However, the MPEP specifically states:

[t]here is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper. *In re Swinehart*, 439 F.2d 210, 169 USPQ 226 (CCPA 1971). A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used.

(MPEP 2173.05(g)). Accordingly, Applicants submit the functional language of claim 1 is proper, and respectfully request the Examiner reconsider and withdraw the objections to claim 1.

V. CLAIM REJECTIONS 35 U.S.C. § 102(b) and (e)

Claim 1 stands rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,238,656 (hereinafter "Tajima"). Claim 1 stands rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,716,428 (hereinafter "Imamura"). Claim 1 stands rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,601,790 (hereinafter "Stilger"). Claim 1 stands rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,759,498 (hereinafter "Sheu"). Claims 98, 103, and 105-107 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Imamura. Applicants respectfully traverse these rejections.

Regarding independent claim 1, Applicants respectfully submit Tajima, Imamura, Stilger, and Sheu do not appear to show all claim features of amended independent claim 1. Amended claim 1 recites, among other things, "means for pre-treating an effluent gas stream to remove water soluble components" and "means for post-oxidation treatment to remove acidic components from the effluent gas stream."

The Examiner points to the concentration unit 1 of Tajima to show the "means for pre-treating an effluent gas stream" of claim 1. However, the concentration unit of Tajima does not appear to be a "means for pre-treating an effluent gas stream to remove water soluble components," as recited in amended claim 1. Rather, it is a unit to increase the concentration of organic halogen compounds. See Tajima, Col. 2, lines 27-31.

The Examiner points to the spray device 7 of Imamura to show the "means for post-oxidation treatment" of claim 1. However, the spray device of Imamura does not

appear to "remove acidic components from the effluent gas stream," as recited in amended claim 1. Rather it is "for removing dust generated by the thermal decomposition from the thermally-decomposed exhaust gas (F3) of high temperature." (Imamura, Col. 3, lines 41-43).

The Examiner points to the oxygenator section 20 of Sheu to show the "means for pre-treating an effluent gas stream" of claim 1. However, the oxygenator section of Sheu does not appear to be a "means for pre-treating an effluent gas stream to remove water soluble components," as recited in amended claim 1. Rather, it is a section "where the exhaust gas is mixed with oxygen for ease of reaction in a consequent processing step." (Sheu, Col. 2, lines 20-22).

Regarding claim 98, Applicants respectfully submit Imamura does not appear to show all claim features of amended independent claim 98. Amended claim 98 recites, among other things, "a second scrubber, downstream from the oxidizing unit, arranged to remove acidic components from the effluent fluid stream." As discussed similarly above with regard to amended claim 1, Imamura appears to show the spray device 7 is used for removing dust contained in the exhaust gas and does not remove acidic components. See, for example, Imamura, Col. 3, lines 41-43 and Col. 4, lines 1-4. Thus, Imamura does not appear to show "a second scrubber, downstream from the oxidizing unit, arranged to remove acidic components from the effluent fluid stream," as recited in amended claim 1.

Accordingly, as Tajima, Imamura, Stilger, and Sheu do not appear to show all claim features of amended independent claim 1 and Imamura does not appear to show all claim features of amended independent claim 98, Applicants

respectfully request the Examiner reconsider and withdraw the 35 U.S.C. § 102 rejections of independent claims 1 and 98.

Claims 103 and 105-107 are dependent on amended independent claim 98 and are submitted as allowable for at least the same reasons as claim 98.

Accordingly, reconsideration and withdrawal of the 35 U.S.C. § 102 rejections are respectfully requested.

VI. CLAIM REJECTIONS 35 U.S.C. § 103(a)

Claims 100, 104 and 108 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Imamura. Claims 71-78, 80-83, 87, 97, 99, 102, and 109-110 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Imamura in view of Stilger. Claims 79 and 84 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Imamura in view of Stilger, further in view of U.S. Patent No. 5,533,890 (hereinafter "Holst"). Claim 101 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Imamura in view of U.S. Patent No. 5,364,604 (hereinafter "Spink"). Applicants respectfully traverse these rejections.

Applicants respectfully submit Imamura does not appear to teach or suggest all claim features of independent claim 71 and amended independent claim 98. Specifically, independent claim 71 recites "a post-treatment unit, downstream from the oxidizing unit, arranged to remove acidic components from the effluent fluid stream." Amended independent claim 98 recites similar features.

As discussed similarly above in regard to the 35 U.S.C. § 102 rejections, Imamura does not appear to

teach or suggest a post-treatment unit for removing acidic components of the effluent stream. The Examiner states "it appears that the acidic components from the exhaust gas F3 are removed by the spray device 7" (Office Action, Page 8, lines 4-5). The Examiner goes on to state "it would have been obvious in view of Stilger to one having ordinary skill in the art to modify the gas treatment system of Imamura with an acid scrubber downstream of the oxidation unit" (Office Action, Page 8, lines 8-10). However, Imamura does not appear to remove acidic components from the exhaust gas downstream of the oxidation unit (e.g., with the spray device), as asserted by the Examiner, and further teaches away from the combination the Examiner proposes.

Imamura's spray device 7 is designed to remove dust from the thermally decomposed exhaust gas. See, for example, Imamura FIG. 1 and Col. 4, lines 1-4). Further, Imamura provides a water scrubber 1 (which the Examiner has identified as a pre-treatment unit) "for water-scrubbing an exhaust gas (F1) discharged from semi-conductor manufacturing equipment to remove at least one of a water-soluble component (emphasis added)" (Imamura, Col. 3, lines 32-35). Imamura further states "[e]xamples of water-soluble components include acidic or basic gases" (Imamura, Col. 6, lines 48-49). Thus, Imamura appears to show removing acidic components from the effluent fluid stream using a pre-treatment water scrubber. As such, Imamura teaches away from the using the post-treatment acid scrubber of Stilger because Imamura removes acid before the exhaust gas reaches the oxidation unit. One of ordinary skill in the art would not be motivated to modify Imamura with Stilger because Imamura has already provided for acid

scrubbing in a pre-treatment unit. Accordingly, Applicants respectfully submit the rejection of independent claims 71 and 98 from the combination of Imamura and Stilger is improper.

The additional references cited by the Examiner do not appear to address the deficiencies of Imamura and/or Stilger.

Claims 72-79 and 86-87 are dependent on independent claim 71 and are submitted as allowable for at least the same reasons as claim 71. Claims 99-110 are dependent on independent claim 98 and are submitted as allowable for at least the same reasons as claim 98.

Accordingly, reconsideration and withdrawal of the 35 U.S.C. § 103 rejections are respectfully requested.

VII. Double Patenting Rejection

Claims 1, 71-74, 80 and 98 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4-6, 28-29 and 32 of U.S. Patent No. 6,322,756 in view of Imamura.

In response to the double patenting rejection, an unsigned terminal disclaimer is enclosed herewith. The present application and U.S. Patent No. 6,322,756 have recently been assigned to Applied Materials, Inc. by Advanced Technology and Materials, Inc. (ATMI). This assignment will be recorded with the Patent Office, and a new Power of Attorney and Change of Correspondence address will be submitted. After completion of the same, and prior to allowance, a signed terminal disclaimer will be submitted in this application.

VIII. Conclusion

The Applicants believe all the claims are now in condition for allowance, and respectfully request reconsideration and allowance of the same.

A separate Request for Three-Month Extension of Time is enclosed. Please charge the three-month extension fee to Deposit Account No. 04-1696. Please also charge the Terminal Disclaimer Fee to Deposit Account No. 04-1696. Applicants do not believe any other fees are due regarding this amendment. If any other fees are required, however, please charge Deposit Account No. 04-1696. The Applicants encourage the Examiner to telephone Applicants' attorney should any issues remain.

Respectfully Submitted,



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